REMARKS/ARGUMENTS

This amendment is in Response to the Final Office Action mailed November 14, 2003. Claim 23 has been amended to include the limitations of dependent claim 26 and the limitation of a "thermally conductive conformal thermal interface ". Also, Claim 33 has been amended to more clearly assert a "conformal thermal interface". A related Claim 45 has been added to depend from Claim 33. Additionally, Claim 26 is hereby cancelled. Claims 1-22, 24-26, 28-31, and 34 now stand cancelled without prejudice. Therefore, Claims 23, 27, 32, 33, and 35-45 remain pending in this application. The applicants respectfully submit that this amendment places the claims in condition for allowance. Accordingly, the applicants respectfully request entry of this amendment and request reconsideration of the remaining claims.

Rejections Under 35 U.S.C. § 103:

All pending claims stand rejected as being unpatentable over Collins, et al. EP 0 837 489 A2 (hereinafter *Collins EP*) in view of Collins USPN 6,572,732 (hereinafter *Collins* '732) under 35 U.S.C. § 103.

Claims 23, 27, 32, 33, 35, 36, 42, 43, and 45:

It is asserted that the combination of *Collins EP* with *Collins '732* teaches or suggests all the limitations of the claims 23, 27, 32, 33, 35, 36, 42, 43, and 45. Applicants respectfully disagree.

In particular, these Claims include a limitation concerning the placement of "heater element and a cooling element divided by a thermal break that is coupled to the heater and cooling elements" (e.g., amended Claim 23). The Office Action briefly states that "there are layers (thermal break element) in the block separating the cooling element (see Figs. 17A-23)" (Page 3 of the Office Action). Applicants respectfully disagree with this contention. There is no teaching or suggestion of an insulative thermal break (for example, a material having low thermal conductivity) between the heating elements and cooling elements of the Collins references.

Additionally, referring to Claim 33, another limitation is not taught by the cited art. The limitation of a "thermal control block having a heating element that is coupled to the

plasma processing chamber by a thermally conductive conformal thermal interface and a cooling element with a thermal break element coupled between the heater element and the cooling element" is not taught. Moreover, cooling with a "cooling element through the thermal break, through the heating element, and through the conformal thermal interface into the processing chamber" is also not taught or suggested by the cited references. The advantageous nature of a conformal thermal interface to provide improved thermal contact between the thermal control block and the chamber is not taught or suggested in the cited art.

Moreover, as to added Claim 45 the cited art does not teach the advantageous combination of a conformal thermal interface having high thermal conductivity and a thermal break having a low thermal conductivity.

Thus, it is respectfully submitted that Claims 23 and 33 are allowable for at least the reasons discussed above. Moreover, it is also submitted that for at least the foregoing reasons that dependent Claims 27, 32, 35, 36, 42, 43, and 45 should also be allowable.

Claims 37-41 and 44:

It is asserted that the combination of *Collins EP* with *Collins '732* teaches or suggests all the limitations of the claims 37-41 and 44. Applicants respectfully disagree.

Claim 37 teaches "heating the plasma processing chamber by heating a resistive heating block that is in physical contact with the roof of the plasma processing chamber". The cited art does not teach or suggest a "heating block that is in physical contact with the roof of the plasma processing chamber". Figs. 26-29 in the cited art are indicative of this shortcoming in the Collins reference. The heating and cooling elements 510, 520 are separated from the roof 110 of the plasma chamber by a back plane 400 and a rather large ceramic antenna assembly 147. The problems caused by the interposition of a large thick thermally insulating antenna speak for themselves, and present an extremely disadvantageous feature of the cited art that teaches directly away from the claimed invention. Thus, it is respectfully submitted that the cited art does not establish a prima facie case of obviousness as to Claim 37. Thus, for at least the foregoing reasons, the applicants respectfully request that the Claim 37 be allowed. As to Claims 38-40 and Claim 44, for at least the reasons advanced herein concerning independent Clam 37, it is respectfully submitted that the cited art does not establish a prima facie case of obviousness as to these claims. Also, as to Claim 41, for at least the reasons advanced herein with respect to Claims 23 and 41, it is respectfully

submitted that the cited art does not establish a prima facie case of obviousness as to this claim. Thus, applicant respectfully request that Claim 37-41 and 44 be allowed.

CONCLUSION

It is respectfully submitted that, in light of the above amendments and discussion, Claims 23, 27, 32, 33, and 35-45 are allowable and that the present application is in condition for allowance. A Notice of Allowance is respectfully requested. Should the Examiner have any questions regarding the above amendments, the Examiner is cordially invited to telephone the Applicants' representative below.

Respectfully submitted,
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